

WHAT IS CLAIMED IS:

1. A automatic analyzer comprising:

a reagent bottle containing a liquid reagent and having an opening through which the reagent is sampled out of said reagent bottle, said opening being closed by a seal to shield off the reagent from an external atmosphere;

a reagent sampling arm for sampling the liquid reagent in said reagent bottle to the outside through said opening;

a reaction cell in which a sample is mixed with the reagent sampled by said reagent sampling arm; and

measuring means for measuring reaction between the sample and the reagent,

said automatic analyzer further comprising:

a seal piercing tool capable of being fitted over a nozzle of said reagent sampling arm to pierce the seal of said reagent bottle;

a stationary container for accommodating said seal piercing tool when not used; and

a mechanism for taking said seal piercing tool out of said container and fitting said seal piercing tool to said reagent sampling arm before the start of piercing the seal of said reagent bottle, and for returning said seal piercing tool to said container after the end of the seal piercing.

2. An automatic analyzer according to Claim 1, further comprising a mechanism for fitting said seal piercing tool over the nozzle of said reagent sampling arm by inserting

the nozzle into said seal piercing tool accommodated in said container from above when said seal piercing tool is to be fitted, and for removing said seal piercing tool from the nozzle of said reagent sampling arm by inserting said reagent sampling arm, including said seal piercing tool fitted over the nozzle, into said container when said seal piercing tool is to be removed.

3. An automatic analyzer according to Claim 1 or 2, wherein said seal piercing tool includes a lockable lever to prevent slipping-off of said seal piercing tool from said reagent sampling arm.

4. An automatic analyzer according to any one of Claims 1 to 3, further comprising:

a rotatable disk on which a plurality of reagent bottles are arranged along a circumference of said disk; and

a mechanism for moving said reagent sampling arm, including said seal piercing tool fitted over the nozzle, to a reagent sampling position, descending said reagent sampling arm to pierce the seal of a first reagent bottle, and then repeating the operation of piercing the seal of a next reagent bottle after rotating said disk.

5. A automatic analyzer comprising:

a reagent bottle containing a liquid reagent and having an opening through which the reagent is sampled out of said reagent bottle, said opening being closed by a seal to

shield off the reagent from an external atmosphere;

a reagent sampling arm for sampling the liquid reagent in said reagent bottle to the outside through said opening;

a reaction cell in which a sample is mixed with the reagent sampled by said reagent sampling arm; and

measuring means for measuring reaction between the sample and the reagent,

said automatic analyzer further comprising:

a seal piercing tool capable of being fitted over a nozzle of said reagent sampling arm to pierce the seal of said reagent bottle;

a stationary container for accommodating said seal piercing tool when not used;

a mechanism for taking said seal piercing tool out of said container and fitting said seal piercing tool to said reagent sampling arm before the start of piercing the seal of said reagent bottle, and for returning said seal piercing tool to said container after the end of the seal piercing; and

a reagent-sampling-arm moving mechanism for moving said reagent sampling arm on a straight line along which one or more openings of one or more reagent bottles, said container, and a reagent dispensing position to said reaction cell are arranged.

6. An automatic analyzer according to Claim 5, further comprising a mechanism for fitting said seal piercing tool over the nozzle of said reagent sampling arm by inserting

the nozzle into said seal piercing tool accommodated in said container from above when said seal piercing tool is to be fitted, and for removing said seal piercing tool from the nozzle of said reagent sampling arm by inserting said reagent sampling arm, including said seal piercing tool fitted over the nozzle, into said container when said seal piercing tool is to be removed,

said mechanism functioning to couple and decouple said seal piercing tool and said reagent sampling arm with combination of movement of said seal piercing tool along said straight line and vertical movement thereof.

7. An automatic analyzer according to any one of Claims 1 to 6, wherein said seal piercing tool is provided in plural, and said automatic analyzer further comprises a mechanism for selectively using one of the seal piercing tools depending on the type of the reagent bottle with the seal to be pierced.

8. An automatic analyzer according to any one of Claims 1 to 7, wherein said seal piercing tool has a slidable guide, said reagent bottle has a guide for guiding said seal piercing tool, and said seal piercing tool and said reagent bottle are aligned with each other through engagement between both the guides in a seal piercing operation.